

Notice of Allowability

Application No.

10/717,322

Examiner

Jaworski Francis J.

Applicant(s)

DUBBERSTEIN ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amdt 3/7/05.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 19 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Francis J. Jaworski
 Primary Examiner

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

The Examiner considered the applicants' arguments against the combinability of Thirsk (US5471990) and Simopoulos et al (US6398733) as lacking in motivation and sifted all documents for fine details. Additional references were considered – Becker et al (US6176828) in implementing Fig. 4 under host processor control is likenable to Thirsk save with a qualitative not quantitative color power (Doppler) mapping goal ; Picot et al (US5505204) col. 5 lines 1 – 14 is directed to a semi-automated power measurement color gain mapping technique. These like Thirsk do not pertain to a time or depth-dependent feature or purpose incorporated into the color gain mapping but rather to overall dynamic range conformance. Hence Thirsk modified by Simopoulos et al would be untenable, particularly since Thirsk is directed to a particularized quantitative technique for the mapping. This leaves consideration of Simopoulos et al modified by one or more of the former, since this patent states that it generically embraces application to color display, colorflow or power Doppler, and transfers what conventionally would be a front end time gain control process to a back-end frame mapping process driven by actual measured signal amplitude or power values. Simopoulos et al however makes clear inter alia that their time or depth-dependent analysis component is reliant on a particularized approach to the statistical processing of noise, see Figs. 11-13 and uses a low pass filter 44 as intrinsic to the noise processor 30 in that fig. 9 embodiment which is concerned with adjusting (time) gain as well as dynamic range. Since a

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wall filter is a high pass filter it therefore does not follow that Simopoulos et al would embrace combination with Thirsk (or with the more generic qualitative color mapping scheme of Becker et al) and accept signal processing input via wall filtering absent a compelling motivation which the relevant automated power Doppler color gain mapping teachings do not provide.

Dubberstein (US6267725) was considered insofar as Fig. 4 depicts automatically filtering the echo data input to a Doppler flow or power system (col. 3 lines 31-37) under control of host processor 20 and producing a set of time gain compensation offset data (first vector firing stored into RAM 52) however the method is not an automatic adjustment for color gain on the video backend of the system.


Rust et al (US 6666824) is directed to derivation of noise signatures under processor 710 control from the tGC channel amplifiers of the system.

Roundhill et al (US6666824) provides processor-governed TGC compression mapping to the image frames but does not use input power values for the derivation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj 06032005


Francis J. Jaworski
Primary Examiner